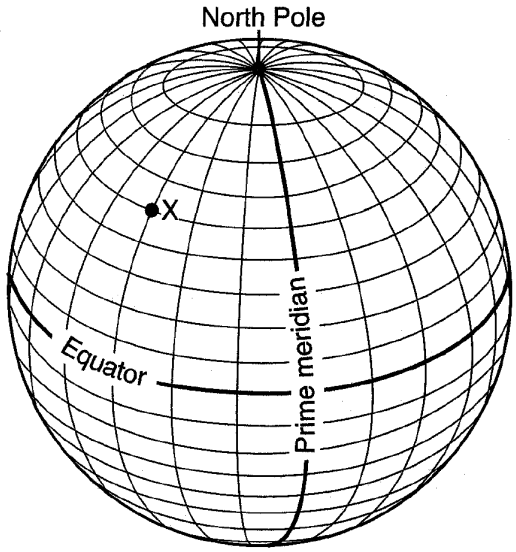
Name _____ **Date** _____ **Per** _____

Mini-Lesson

1) The diagram below shows latitude measurements every 10 degrees and longitude measurements every 15 degrees.

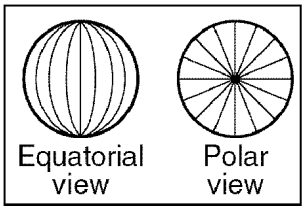


What is the latitude and longitude of point *X*?

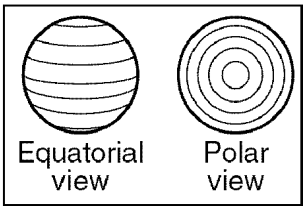
A) 40° S 45° E
B) 50° N 45° W
C) 60° S 30° W
D) 75° N 30° E

2) The lines on which set of views best represent Earth's latitude system?

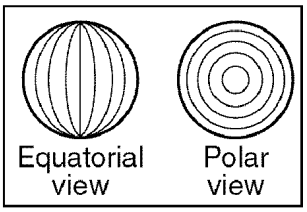
A)



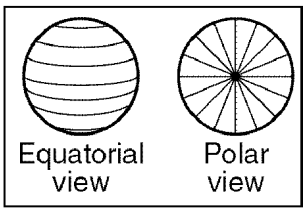
B)



C)



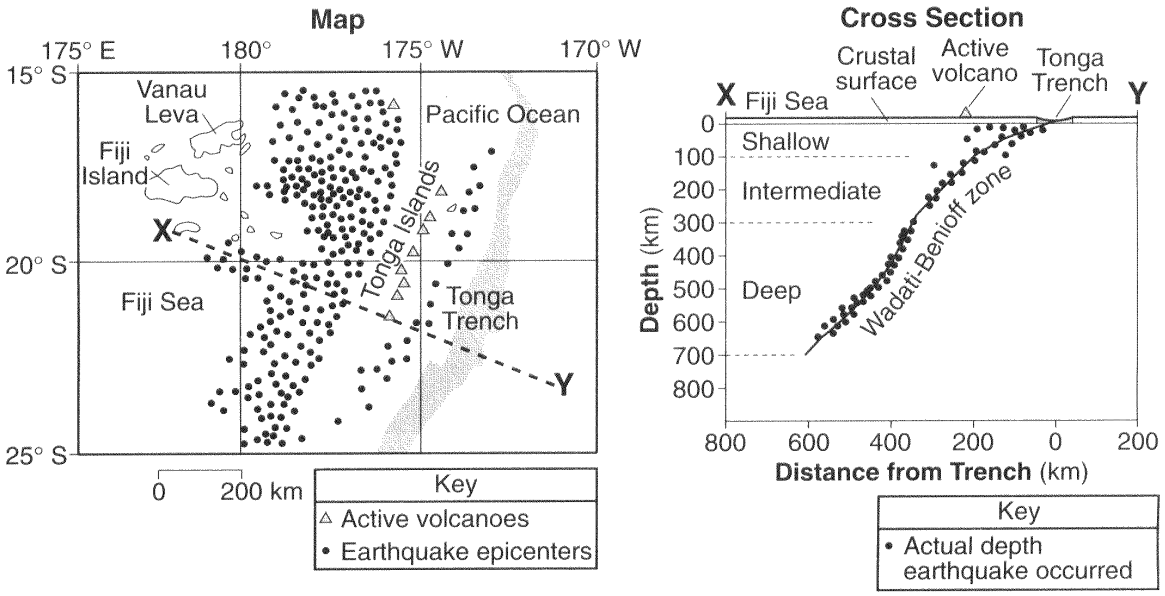
D)



3) Base your answer to the following question on the information, map, and cross section below.

The map represents a portion of Earth's surface in the Pacific Ocean. The positions of islands, earthquake epicenters, active volcanoes, and the Tonga Trench are shown. Lines of latitude and longitude have been included.

The cross section shows earthquakes that occurred beneath line XY on the map. Depth beneath Earths surface is indicated by the scale along the left side of the cross section, as are the range of depths for shallow, intermediate, and deep earthquakes. Distance from the trench is indicated by the scale along the bottom of the cross section.



The latitude and longitude of the center of Vanau Leva is closest to

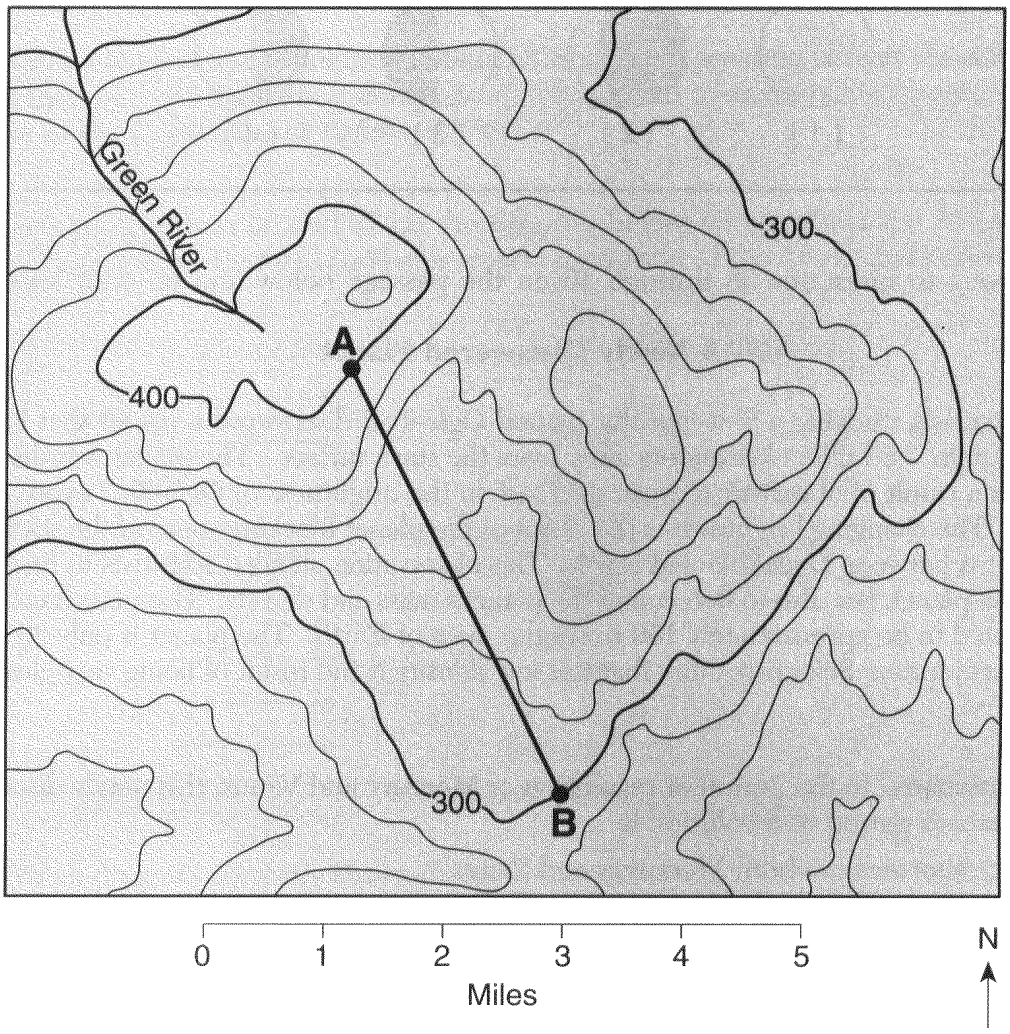
A) 17° N 179° W

B) 17° N 181° W

C) 17° S 179° E

D) 17° S 181° E

4) Base your answer to the following question on the topographic map below. Elevations are in feet. Point A and B are locations on the map.



What is the gradient along the straight line between points A and B?

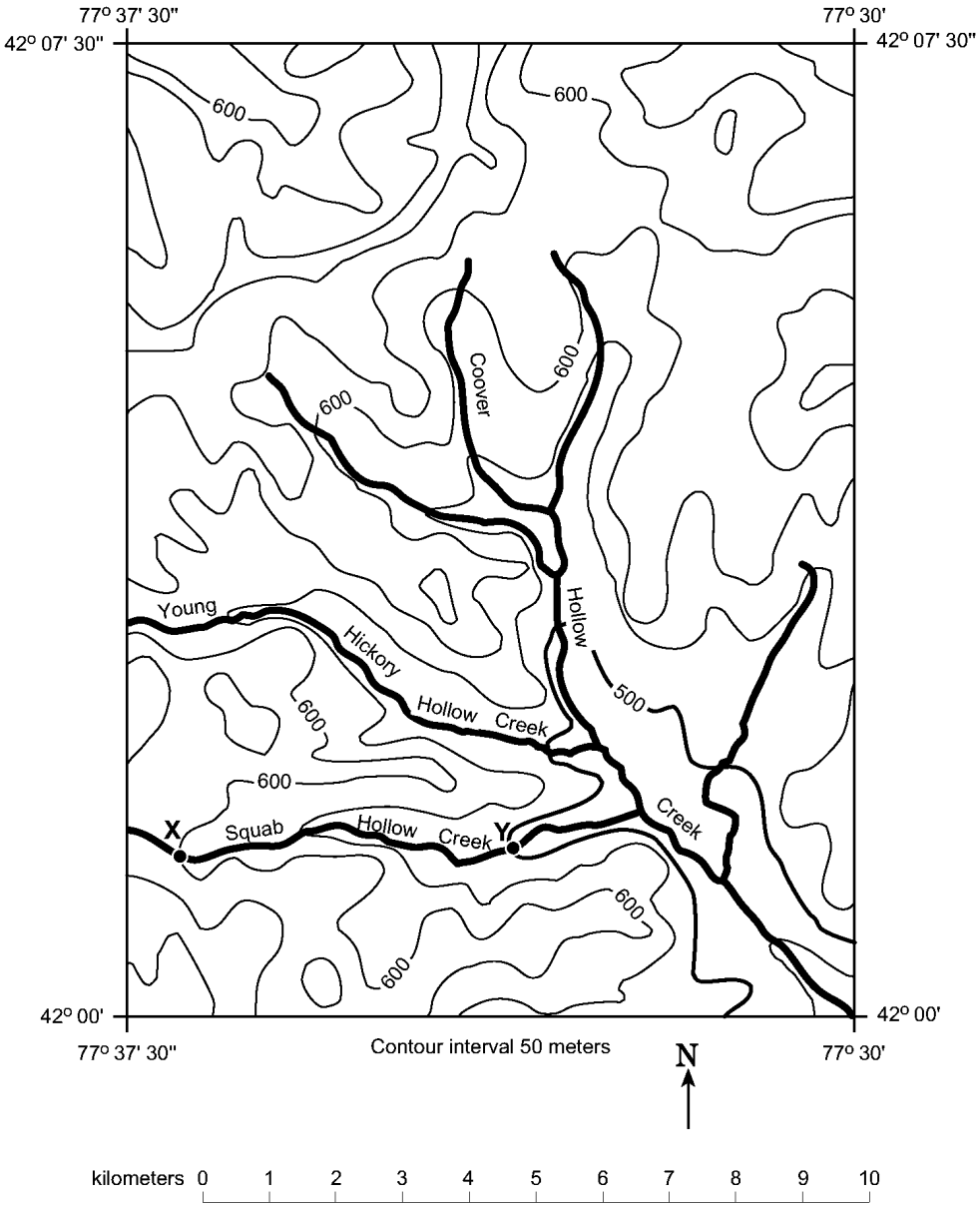
A) 10 ft/mi B) 20 ft/mi C) 25 ft/mi D) 35 ft/mi

5) A stream has a source at an elevation of 1,000. meters. It ends in a lake that has an elevation of 300. meters. If the lake is 200. kilometers away from the source, what is the average gradient of the stream?

A) 1.5 m/km C) 10. m/km

B) 3.5 m/km D) 15 m/km

6) Base your answer to the following question on the topographic map below. Points *X* and *Y* are locations on Squab Hollow Creek.



Determine the gradient of Squab Hollow Creek between point *X* and point *Y* by following the directions below.

a Write the equation used to determine the gradient.

b Substitute values into the equation.

c Solve the equation and label the answer with the correct units.

Answer Key
geomapapplatlonggrad1

1) **B**
2) **B**
3) **C**
4) **C**
5) **B**
6) (a) $g = \frac{\text{change in field value}}{\text{distance}}$

(b) $g = \frac{600\text{m} - 500\text{m}}{5\text{km}}$

$g = \frac{100\text{m}}{5\text{km}}$

(c) g = 20 m/km